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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
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ART UNIT	**PAPER NUMBER**
2194	

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/882,459	KALHOUR, MORTEZA	
	Examiner	Art Unit	
	Qing-Yuan Wu	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-7,9-19 and 22-30* is/are pending in the application.

4a) Of the above claim(s) *11-14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4-7, 9-10, 15-19, and 22-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1, 4-7, 9-19, and 22-30 are pending in the application.

Election/Restrictions

2. Restriction to one of the following invention is required under 35 U.S.C. 121:

I. Group I, claims 1, 4-7, 9-10, 15-19, and 22-30, drawn to resource allocation, classified in class 718, subclass 104.

II. Group II, claims 11-14, drawn to priority scheduling, classified in class 718, subclass 103.

3. Inventions Group I and Group II are related as subcombinations disclosed as usable together in a single combination. Group I is drawn to a method of resolving conflicts in the allocation of shared resources. Group II is drawn to a method of selecting an application to be prioritized. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, inventions Group I and Group II has separate utility such as the search for Group I invention is not required for Group II invention and vice versa. See MPEP § 806.05(d).

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Mr. Robert H. Kelly, reg. no. 33,922 on May 31, 2005 a provisional election was made without traverse to prosecute the invention of Group I, claims 1, 4-7, 9-10, 15-19, and 22-30.

6. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-14 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. Applicant should cancel non-elected claims in the amendment.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 19 and 22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter because they are lacking utilities. (i.e. the computer program must

be stored in a computer readable medium, and executed by a computer element to perform control of a technical procedure).

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 4-7, 24-26 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The following terms lacks antecedent basis:

i. The decision- claims 24-26

b. The following claim language is indefinite:

i. As per claims 4 and 28, it is uncertain to who the resource is "requesting a decision as to how to allocate itself" to (i.e. is the resource requesting a decision as to how to allocate itself to the second application?).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Notenboom et al (hereafter Notenboom) (U.S. Patent 5,748,468), in view of Borissov et al (hereafter Borissov) (U.S. PGPub 20020029213).

13. As to claim 29, Notenboom teaches the invention substantially as claimed including a method of resolving conflicts in the allocation of a plurality of shared resources between a first application to which one of said plurality of resources is currently allocated and a second application requesting access to said one of said plurality of resources, in a resource management system [abstract, lines 5-9] that includes a resource manager [abstract, line 1; 100, Fig. 4].

14. Notenboom does not specifically teach the method comprising permitting said one of said plurality of resources to allocate itself to said second application if it has the authority to do so, without requesting permission to allocate itself from the resource manager. However, Notenboom disclosed having a resource manager determining if a node is evictable to free its resources for a new node [col. 12, lines 1-20]. In addition, Borissov teaches self-allocation of resources [Borissov, pg. 1, paragraph 20; pg. 5, paragraph 114].

15. It would have been obvious to one of an ordinary skill in the art at the time the invention was made, to have combined the teaching of Notenboom with the teaching of Borissov because

both Notenboom and Borissov teaches allocating resources needed by a requester [abstract; Borissov, pg. 1, paragraph 2, lines 1-2].

16. As to claim 30, Notenboom as modified teaches the invention substantially as claimed including permitting said one of said plurality of resources to request an allocation decision from the resource manager to allocate itself to the second application [col. 12, lines 1-20]. Notenboom as modified does not specifically teach said one of said plurality of resources request an allocation decision only if it does not have the authority. However, Notenboom disclosed a prioritized co-processor resource manager (hereafter PCRM) that is responsible for managing allocation of resources [col. 7, lines 55-57]. It would have been obvious to one of an ordinary skill in the art at the time the invention was made, to have recognized that the resources managed by the PCRM are allocated by the PCRM upon determining certain attributes [col. 12, lines 1-34].

17. Claims 1, 4-7, 10, 15-19, 22-26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Notenboom in view of Borissov as applied to claims 29-30 above, further in view of Mukaida et al (hereafter Mukaida) (U.S. Patent 5,991,793).

18. As to claim 1, this claim is rejected for the same reason as claim 29 above. Notenboom as modified teaches the invention substantially as claimed including a method of resolving

conflicts in the allocation of a shared resource between a first application to which the resource is currently allocated and a second application requesting access to the resource, comprising:

comparing the priority of the second application with a priority for a predetermined prioritized application to determine whether the second application is the predetermined prioritized application [col. 12, lines 1-11; col. 3, lines 25-42; col.11, lines 25-28; col. 12, lines 1-8; Fig. 6A; 175, Fig. 6B];

in the event that the second application is the predetermined prioritized application, the resource determining whether it has the authority to allocate itself to the second application [col. 12, lines 21-23; col. 12, lines 35-57; 177, Fig. 6B]; and

in the event that the resource has the authority to allocate itself to the second application, the resource allocating itself to the second application [col. 11, lines 59-67; col. 12, lines 61-64; col. 13, lines 27-30; Borissov, pg. 1, paragraph 20; pg. 5, paragraph 114].

19. Notenboom as modified does not specifically teach receiving or comparing at the resource. However, it would have been obvious to one of an ordinary skill in the art at the time the invention was made, to have recognized that in a case where the resource is a memory or a storage, the information regarding to the resource allocation request communicated to the resource (i.e. a server) would have to be temporarily cache or store at the resource.

20. Furthermore, Notenboom as modified does not specifically teach a resource request that includes an identity of the second application. However, Notenboom disclosed comparing

priorities in which the priorities are determined by various attributes used to identify the various functions/rights of a node [col. 7, lines 28-54; col. 12, lines 1-14] to see if the node is evictable. In addition, Mukaida teaches a process ID of a process making a resource request [Mukaida, col. 5, lines 57-59].

21. It would have been obvious to one of an ordinary skill in the art at the time the invention was made, to have combined the teaching of Notenboom as modified with the teaching of Mukaida because both Notenboom as modified and Mukaida teaches allocating resources needed by a requester [abstract; Borissov, pg. 1, paragraph 2, lines 1-2; Mukaida, abstract].

22. As to claim 4, this claim is rejected for the same reason as claim 30 above.

23. As to claims 5-6, Notenboom as further modified does not specifically teach the step wherein the decision depends on input from a user of the first and second applications and depends on predetermined priorities assigned to the first and second applications. However, Notenboom as modified disclose the user having the ability to designate a "particular operations are to take precedence over others" [col. 6, lines 30-41; col. 9, lines 44-52].

24. It would have been obvious to one of an ordinary skill in the art at the time the invention was made, to have recognized that in the event that a resource does not have the authority to permit allocation of resources to the requesting application, the ultimate decision should be made

based on an input from a user, or on the priorities assigned to the applications as being considered and implemented in Notenboom's method of resource management.

25. As to claim 7, Notenboom as further modified teaches the invention substantially as claimed including wherein the decision comprises denying allocation to the second application [col. 12, lines 56-57].

26. As to claim 10, Notenboom as modified does not specifically teach in the event that the second application requests use of the resource without requesting its allocation, recording the second application as a user irrespective of whether it is the prioritized application. However, Notenboom disclosed countable resources that can be allocated in part [col. 3, lines 47-48].

27. It is well known in the art that there are different varieties of resources such as hard-drive access, database access, and memory access, etc. that grants basic user access, and not ownership/allocation to the resources. A person with ordinary skill in the art at the time of the invention was made would have included the use of resource without requesting allocation to avoid the overhead of overcoming ownership conflicts when ownership of the resource is not require.

28. As to claims 15-19, and 22, these are resource management system and computer program product claims for performing the method claims 1, 4, 7 and 10. Therefore, they are rejected for the same reason as claims 1, 4, 7 and 10 above.

29. As to claims 23-26, these claims are rejected for the same reason as claims 4-7 above.

30. As to claim 28, this claim is rejected for the same reason as claims 1 and 4 above.

31. Claims 9 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Notenboom, Borissov and Mukaida et al, as applied to claim 1 above, in view of Tanaka et al (hereafter Tanaka) (U.S. Patent 5,377,352).

32. As to claim 9, Notenboom, Borissov and Mukaida et al do not specifically teach wherein the identity of the favored application is stored at the resource. However, Tanaka teach the selection of a task next to locking a shared resource in which the selection is base on comparing the task identifier registered in the locking task table to the task identifier of the requesting task [Tanaka, col. 5, lines 38-60 and col. 6, lines 6-20; 703, Fig. 7].

33. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Notenboom, Borissov and Mukaida et al and Tanaka because using the ID for comparing would improve the throughput of Notenboom, Borissov and

Mukaida et al's system providing the benefit of being able to identify an application or task with top priorities and allow this application or task to allocate the resource over others.

34. As to claim 27, this claim is rejected for the same reason as claim 9 above.

Response to Arguments

35. Applicant's arguments filed 11/29/04 have been fully considered but are moot in view of the new ground(s) of rejection.

25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qing-Yuan Wu whose telephone number is (571) 272-3776. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Qing-Yuan Wu

Examiner

Art Unit 2194

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